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ABSTRACT

Findings of a study that examined the relationship between Ohio school district income levels and student testing performance are presented in this paper. The first statistical analysis categorized districts by residents' average income, and the second analysis classified them according to the percentage of families receiving Aid to Dependent Children (ADC). Each group of districts was compared to the percentage of ninth-grade students who passed the state mathematics, reading, writing, and citizenship proficiency test during 1990-91. Findings indicate that the passing rates were significantly related to family wealth. Districts with higher average incomes had higher passing rates than those with lower average incomes, and districts with a lower percentage of ADC families had higher passing rates than those with a higher percentage of ADC families. Conclusions are that passing rates on proficiency tests reflect wealth, not school effectiveness or instructional quality, and that proficiency test scores are not a valid measure of educational quality. Two tables are included. (LMI)

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PROFICIENCY TESTING AND THE "INCOME GAP"

(IN PRESS-OSBA JOURNAL)

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The ninth grade proficiency test developed by the State Department of Education measures competency in reading, writing, mathematics, and citizenship. As the law currently stands, students of the class of 1994 and beyond, will receive either a Certificate of Attendance or one of three diplomas based on their performance on this test. The three diplomas to be awarded are: Diplomas of Basic Competency, Diplomas with Distinction, and Diplomas with Commendation.

The Certificate of Attendance will be given to students who complete their high school course work but do not pass the ninth grade proficiency test. The Diploma of Basic Competency will be awarded to students who complete their high school course work and pass the ninth grade exam. Students who complete their course work, meet additional criteria established by the district board of education and pass proficiency exams at grades nine and twelve are eligible for Diplomas with Distinction. Students who complete their course work, pass exams at grades nine and twelve and meet additional criteria established by the State Board of Education will earn Diplomas with Commendation.

Beginning with the 1991-92 school year, the State Board of Education will also use student performance on these tests , along with other measures, to select "excellent " and "deficient" schools

Awarding levels of diplomas and labeling schools as either "excellent " or "deficient" are programs designed to insure that Ohio students will be academically capable , productive citizens. However, a wave of criticism has followed these proposed programs. Some educators and parents have expressed concern that test scores will be misinterpreted or misused. Others have become alarmed by what has been called the "Income Gap."

What is the "Income Gap?" Research shows that the average income of a community from which a school district draws its students will impact test scores. On the average, students from districts whose residents have high incomes score better on tests than students from districts whose residents are less affluent. There are various arguments about why this pattern arises, but most testing and evaluation experts agree that this association does not necessarily imply that school districts with more affluent families are doing a better job than school districts serving average or poor families.

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To illustrate the strong relationship between district income levels and test performance, we examined the percent of students passing mathematics, reading, citizenship, writing and the total test for those Ohio school districts that participated in the state's proficiency testing program during the 1990-91 school year.

In the first of two statistical analyses, districts were divided into five income groups. Group 1 was composed of districts whose residents had an average income of less than $20,999. Group 2 consisted of districts having an average income of $21,000 to $25,999. Districts whose residents had average incomes between $26,000 and $30,999 composed Group 3. Group 4 districts had average incomes between $31,000 and $35,999, while Group 5 had average incomes at or above $36,000.

In the second analysis, districts were divided into groups based on the percent of their students whose families were receiving Aid to Dependent Children (ADC). Group 1 included districts having 10 percent or less of their families receiving ADC. Group 2 consisted of districts having 11 to 20 percent of their families receiving ADC. Districts with 21 percent or more of their families receiving ADC composed Group 3.

Significant differences were found between each of the five income groups in mathematics, citizenship, writing and the total test. Significant differences were uncovered in reading for groups one through four while groups four and five were similar. Districts whose residents had higher income had a higher percentage of students pass these subtests than districts whose residents had lower incomes (see Table 1).

Significant differences were also uncovered when we examined the passing rates of districts grouped by ADC participation. There were differences between the three groups in mathematics, reading, citizenship, writing, and the total test. Those districts with lower ADC participation had a higher percentage of students pass than districts with higher ADC participation (see Table 2).

What Do the Results Mean?

Passing rates on the ninth grade proficiency test, to a large degree, are related to family wealth. Districts whose residents had higher average incomes had higher passing rates than districts whose residents had lower average incomes. Districts with a lower percent of ADC families had higher passing rates than districts who had a higher percentage of ADC families.

Assuming that a high passing rate reflects effective education or excellence is naive and dangerous. The danger is that people will be convinced that something is being done to identify and correct educational problems in Ohio. Attention will be diverted from real problems and real solutions, while districts compete and are judged on a biased index of educational quality.

We are not saying that passing rate differences among districts do not reflect variations in effectiveness. Sometimes performance differences will reflect differences in programs or policies, but sometimes they won't-they will merely reflect differences in the demographic make-up of districts. The problem is that none of us will know which is which. Ignoring this fact will waste public money and divert attention from needed educational improvements. Indeed, it could make matters worse by leading us to criticize effective districts and emulate unsuccessful ones.

To infer that a difference between two districts on test scores reflects specific policies or practices, one needs to be able to reject with reasonable confidence other plausible explanations, such as economic, demographic or ability differences. The present programs-differentiated diplomas and labeling schools as either excellent or deficient- do not come close to providing the type of information needed to rule out alternative explanations.

If we look to other areas of public policy - say, public health - it becomes apparent that our objections to these programs are not those of purists. In other policy areas, we would be properly angered if data similar to achievement scores were used to draw causal inferences about program effectiveness. Would anyone, for example, infer from the appalling infant mortality rate in the District of Columbia that neonatal intensive care in Washington is inferior? Of course not; we acknowledge the wide variety of other factors that help determine that statistic. Why are we applying so much looser a standard to the evidence we will require in education?

Accountability is an important component of educational reform. Districts should be expected to demonstrate to their residents that their tax dollars are being spent wisely and their children well-educated. However, we should temper our reading of proficiency test performance with two warnings. First, without procedures to separate the effects of socioeconomic background, passing rates are not comparable within or across districts. Passing rates on this year's proficiency test reflect wealth, not effectiveness or quality of instruction. Second, while proficiency test scores are easily obtained and reported measures, they do not provide the most valid measure of educational quality.

TABLE 1
MEAN PASSING PERCENT AND STANDARD DEVIATIONS FOR INCOME GROUPS ON MATHEMATICS, READING, CITIZENSHIP AND WRITING

MATH

Group:		Mean Percentage	Std. Dev.:
Group 1	(≤$20,999)	30.31	27.5
Group 2	(21-$25,999)	36.70	26.8
Group 3	(26-$30,999)	43.56	25.9
Group 4	(31-$35,999)	51.77	28.8
Group 5	(≥$36,000)	61.12	30.9

READING

Group:		Mean Percentage	Std. Dev.:
Group 1	(≤$20,999)	67.26	29.1
Group 2	(21-$25,999)	73.68	25.8
Group 3	(26-$30,999)	77.32	24.1
Group 4	(31-$35,999)	83.95	18.5
Group 5	(≥$36,000)	84.85	21.5

CITIZENSHIP

Group:		Mean Percentage	Std. Dev.:
Group 1	(≤$20,999)	42.23	28.4
Group 2	(21-$25,999)	48.63	27.6
Group 3	(26-$30,999)	56.27	27.3
Group 4	(31-$35,999)	64.87	26.2
Group 5	(≥$36,000)	72.15	26.2

WRITING

Group:		Mean Percentage	Std. Dev.:
Group 1	(≤$20,999)	60.87	32.2
Group 2	(21-$25,999)	71.82	27.1
Group 3	(26-$30,999)	77.43	33.0
Group 4	(31-$35,999)	81.59	21.6
Group 5	(≥$36,000)	86.11	18.9

ALL SUBTESTS

Group:		Mean Percentage	Std. Dev.:
Group 1	(≤$20,999)	18.35	20.5
Group 2	(21-$25,999)	25.80	23.4
Group 3	(26-$30,999)	33.14	23.8
Group 4	(31-$35,999)	41.68	27.7
Group 5	(≥$36,000)	51.97	29.7

TABLE 2

MEAN PASSING PERCENT AND STANDARD DEVIATIONS FOR ADC GROUPS ON MATH, READING, CITIZENSHIP AND WRITING

MATH

Group:	Mean Percentage	Std. Dev.:
Group 1 (≤10% ADC)	45.42	28.9
Group 2 (11-20% ADC)	34.95	25.4
Group 3 (≥21% ADC)	25.34	22.3

READING

Group:	Mean Percentage	Std. Dev.:
Group 1 (≤10% ADC)	78.40	25.0
Group 2 (11-20% ADC)	71.63	25.3
Group 3 (≥21% ADC)	66.45	24.1

CITIZENSHIP

Group:	Mean Percentage	Std. Dev.:
Group 1 (≤10% ADC)	56.79	28.9
Group 2 (11-20% ADC)	48.55	26.6
Group 3 (≥21% ADC)	39.31	23.8

WRITING

Group:	Mean Percentage	Std. Dev.:
Group 1 (≤10% ADC)	77.04	25.7
Group 2 (11-20% ADC)	69.84	26.7
Group 3 (≥21% ADC)	63.24	27.7

ALL SUBTESTS

Group:	Mean Percentage	Std. Dev.:
Group 1 (≤10% ADC)	34.9	26.8
Group 2 (11-20% ADC)	23.18	21.1
Group 3 (≥21% ADC)	17.37	19.1